JUN 1 7 2010

Submitter Information

Submitter:	Hitachi Medical Systems America, Inc. 1959 Summit Commerce Park Twinsburg, Ohio 44087-2371 ph: (330) 425-1313 fax: (330) 963-0749	K093466
Contact:	Douglas J. Thistlethwaite	
Date:	April 26, 2010	

Device Name

Classification Name:	System, Imaging, Pulsed Doppler, Ultrasonic
Classification Number:	90-IYN
Trade/Proprietary Name:	HITACHI HI VISION Preirus Diagnostic Ultrasound Scanner
Predicate Device(s):	HI VISION 900 Diagnostic Ultrasound Scanner (K063518) GE Logiq® E9 (K082185) Acuson S2000 (K072786)

Device Intended Use

The HI VISION Preirus is intended for use by trained personnel (doctor, songrapher, etc.) for the diagnostic ultrasound evaluation of Abdominal, Cardiac, Intra-operative, Fetal, Pediatric, Small Organ, Peripheral vessel, Biopsy, Trans-rectal, Trans-vaginal, Musculoskeletal, Neonatal Cephalic, Adult Cephalic, Endoscopy, Intra-luminal, Gynecology, Urology and Laparoscopic clinical applications.

The Modes of Operation of the HI VISION Preirus are B mode, M mode, PW mode (Pulsed Wave Doppler), CW mode (Continuous Wave Doppler), Color Doppler, Amplitude Doppler (Color Flow Angiography), TDI (Tissue Doppler Imaging), 3D Imaging, 4D Imaging, Real Time Tissue Elastography, and Real Time Virtual Sonography...

Device Description

Function

An ultrasound system consists of the following:

- Ultrasound transducer(s) to generate the transmitted ultrasound energy and detect the reflected echoes
- A computer system to control the transducer and analyze the signals resulting from the reflected echoes
- A video monitor with optional image recorder to display the computed image or derived Doppler data

Scientific Concepts

An acoustic wave is a mechanical perturbation of a medium which passes through a given medium at a fixed velocity. The rate at which the particles in the medium vibrate in the disturbance is the frequency of the wave, and is measure as cycles/second, or hertz (Hz). Frequencies above 20 kHz are not audible, and above this frequency, the acoustic energy is known as ultrasound. For the purposes of medical ultrasound imaging, frequencies in the range of 1-20 MHz are utilized.

The ultrasound waves comprising a beam travel in as straight line in homogeneous media. When an ultrasound wave reaches an interface between two media of different impedances, a portion of the beam energy may pass through the boundary (transmission), and a portion may be reflected. The direction of propagation of the transmitted beam is determined by the angle of incidence of the incident beam upon the boundary, and differences (if any) in the speed of sound in the two media. The direction of reflection is determined solely by the angle of incidence upon the boundary. The relative strength of the reflected wave depends upon the differences in the impedances between the two media. Reflection at a boundary between soft tissue and bone, as an example, involves a large impedance difference, and results in a relatively strong reflected echo. Reflection at a boundary between two soft tissue-types with a relatively small impedance difference, on the other hand, results in a relatively weak reflected echo.

The ultrasound transducer, when operating in pulsed mode, periodically emits an ultrasound burst at a predetermined rate described as the pulse repetition frequency (PRF). During the time duration that the transducer is not transmitting ultrasound energy, it may act as a received for the reflected ultrasound energy. Since the speed of propagation of ultrasound in tissues is estimated as 1540m/sec, the time elapsed between transmission of a pulse and receipt of an echo may be used to estimate the distance from the transducer to the tissue structure giving rise to the reflected echo. The relative strength of the reflected echo can be used to determine the brightness of display of the reflected echo or strength of derived Doppler signal.

Physical and Performance Characteristics

The principle of operation of ultrasound imaging involves generation of an ultrasound wave with an electric signal applied to a transducer, direction of the resulting ultrasound wave into the tissue of the body, and reception and analysis of the echoes reflected back to the same or an adjacent transducer from the various tissues along the path of the ultrasound wave.

Device Technological Characteristics

The technological characteristics of this device are identical to the primary predicate device. The control and image processing hardware and the base elements of the system software are identical to the predicate device. See Section 4 – Predicate Device Comparison.

Conclusions

It is the opinion of Hitachi Medical Systems America, Inc. that HITACHI HI VISION Preirus Diagnostic Ultrasound Scanner is substantially equivalent to the predicate devices. In addition, we have concluded that the subject system is:

- Substantially equivalent with respect to safety, effectiveness, and functionality to the HI VISION 900 Diagnostic Ultrasound Scanner (K063518) with the exception of the two new Modes of Operation, Real Time Tissue Elastography and Real Time Virtual Sonography.
- Substantially equivalent with respect to safety and functionality to the GE Logiq® E9 (K082185) in regards to the device with Real-time Virtual Sonography (RVS)
- Substantially equivalent with respect to safety and functionality to the Acuson S2000 (K072786) in regards to the device with Real-time Tissue Elastography

Attachment

ATTACHMENT	POSITION
Declaration of Conformity with Design Controls	1

Summary of Design Control Activities

The design validation / verification tests that were performed are listed.

Items	Tests performed				
Electrical, Mechanical safety	IEC60601-11				
	See section 1.7.2.1				
Acoustic output safety	FDA Guidance				
-	IEC60601·2·372				
Software	See section 1.7.5				
Probe patient contact materials	ISO10993 ³				
_	See section 1.7.3				

¹ Medical Electrical Equipment, Part 1: General Requirements for Safety IEC60601-1

² Medical Electrical Equipment, Part 2-37: Particular requirements for the safety of ultrasonic medical diagnostic and monitoring equipment

³ Biological Evaluation of Medical Device

DECLARATION OF CONFORMITY WITH DESIGN CONTROLS

Verification Activities

To the best of my knowledge, the verification activities, as required by the risk analysis, for the modification were performed by the designated individual(s) and the results demonstrated that the predetermined acceptance criteria were met.

Name:

H. Noguchi

Title Manager,

Ultrasound QA Section,

Hitachi Medical Corporation

Signature: A. Noquel

Date:

March 31, 2009

Manufacturing Facility

The manufacturing facility, Hitachi Medical Corporation is in conformance with the design control requirements as specified in 21 CFR 820.30 and the records are available for review.

Name:

T. Kasanami

Title Manager,

Development Design Dept.,

Ultrasound Systems Division,

Hitachi Medical Corporation

Signature: 1_ Kasarami

Date:

March 31, 2009

DEPARTMENT OF HEALTH & HUMAN SERVICES



Food and Drug Administration 10903 New Hampshire Avenue Document Mail Center - WO66-G609 Silver Spring, MD 20993-0002

Mr. Doug Thistlethwaite Manager, Regulatory Affairs Hitachi Medical Systems America, Inc. 1959 Summitt Commerce Park TWINSBURG OH 44087 JUN 1 7 2010

Re: K093466 -

Trade/Device Name: Hitachi HI VISION Preirus Diagnostic Ultrasound Scanner

Regulation Number: 21 CFR 892.1550

Regulation Name: Ultrasonic pulsed doppler imaging system

Regulatory Class: II

Product Code: IYN, IYO, and ITX

Dated: June 11, 2010 Received: June 15, 2010

Dear Mr. Thistlethwaite:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and we have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

This determination of substantial equivalence applies to the following transducers intended for use with the Hitachi HI VISION Preirus Diagnostic Ultrasound Scanner, as described in your premarket notification:

Transducer Model Numbers

EUP-B512	EUP-ES52E
EUP-B514	EUP-L52
EUP-C514	EUP-L53
EUP-C524	EUP-L53L
EUP-C532	EUP-L65
EUP-C715	EUP-L73S
EUP-CC531	EUP-L74M
EUP-CV524	EUP-O54J
EUP-CV714	EUP-R54AW-19, -33

EUP-S50A
EUP-S52
EUP-S70
EUP-U533

EUP-V53W EUP-VV731 Fujinon SP711

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the <u>Federal Register</u>.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

This letter will allow you to begin marketing your device as described in your premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus permits your device to proceed to market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please go to http://www.fda.gov/AboutFDA/CentersOffices/CDRH/CDRHOffices/ucm115809.htm for the Center for Devices and Radiological Health's (CDRH's) Office of Compliance. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to

http://www.fda.gov/MedicalDevices/Safety/ReportaProblem/default.htm for the CDRH's Office of Surveillance and Biometrics/Division of Postmarket Surveillance.

If you have any questions regarding the content of this letter, please contact Shahram Vaezy at (301) 796-6242.

Sincerely yours

Donald J. St.Pierre

Acting Director

Division of Radiological Devices

Office of In Vitro Diagnostic Device

Evaluation and Safety

Center for Devices and Radiological Health

Enclosures

Indications for Use

	510(k) Number (if known):
	Device Name: HI VISION Preirus Diagnostic Ultrasound Scanner
	Indications For Use:
	The HI VISION Preirus is intended for use by trained personnel (doctor, songrapher, etc.) for the diagnostic ultrasound evaluation of Abdominal, Cardiac, Intra-operative, Fetal, Pediatric, Small Organ, Peripheral vessel, Biops Trans-rectal, Trans-vaginal, Musculoskeletal, Neonatal Cephalic, Adult Cephalic, Endoscopy, Intra-luminal, Gynecology, Urology and Laparoscopic clinical applications.
	The Modes of Operation of the HI VISION Preirus are B mode, M mode, PW mode (Pulsed Wave Doppler), CW mode (Continuous Wave Doppler), Color Doppler, Amplitude Doppler (Color Flow Angiography), TDI (Tissue Doppler Imaging), 3D Imaging, 4D Imaging, Real Time Tissue Elastography, and Real Time Virtual Sonography.
-	
	Prescription Use X AND/OR Over-The-Counter Use (21 CFR 801 Subpart C)
	(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED)
	Concurrence of CDRH, Office of Device Evaluation (ODE)
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	(Division Sign-Off) Division of Radiological Devices Office of In Vitro Diagnostic Device Evaluation and Safety
·	5104 K0934660

System:

HI VISION Preirus

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follows:

Clinical Application		Mode of Operation						
General (Track I only)	Specific (Tracks I & III)	В	M	PWD	CWD	Color Doppler	Combined* (Spec.)	Other** (Spec.)
Ophthalmic	Ophthalmic							· · · · ·
	Fetal	_ P	P	P	P	P	P	P
	Abdominal	Pa	Pa	Pa	Pa	Pa	Pa	Pa
•	Intra-operative (Spec.)	Pb	Pb	Pb		Pb	Pb	Pb
	Intra-operative (Neuro.)		,		i - 1		 -	
	Laparoscopic	_P	P	P		P	P	P
	Pediatric	P	P	P	P	P	P	P
	Small Organ (Spec.)	·Pd	Pd	Pd		Pd	Pd	Pd
	Neonatal Cephalic	P	P	P		P	P	P
	Adult Cephalic	P	P	P	P	. P	P	P
& Other	Trans-rectal	Ph	Ph	Ph	•	Ph	Ph	Ph
	Trans-vaginal	Pf	Pf	Pf		Pf	Pf	Pf
	Trans-urethral				-			
	Trans-esoph. (non-Card.)							· <u> </u>
	Musculo-skel. (Convent.)	P	·P	P		P	P	P
	Musculo-skel. (Superfic.)	P	P	P		P	P	P
	Intra-luminal	P	,i					
	Other (spec.)				· .			
Cardiac	Cardiac Adult	P	P	P	: P	P	P	P
	Cardiac Pediatric	P	. P ·	P	P	P	P	P
	Trans-esophageal (card.)	Pg	Pg	Pg	_ P	Pg	Pg	Pg
	Other (spec.)							
Peripheral	Peripheral vessel	P	P	P	P	P	P	P
Vessel	Other (spec.)		. •					

Additional Comments:

Subscript "a":	Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures
	(including amniocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis.
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of biopsy
Subscript "e":	Includes imaging for guidance of transrectal biopsy.
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.
Subscript "g":	For pediatric patients.
Subscript "h":	Includes imaging for guidance of transrectal biopsy.
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Office of In Vitro Diagnostic Device Evaluation and Safety

N = new indication. P = previously cleared in K063518.

*Combination of each operating mode, B, M, PWD, CWD and Color Doppler.

**Amplitude Doppler (Color Flow Angiography), Tissue Doppler Imaging, 3D Imaging, 4D Imaging, Real Time Tissue Elastography, Real Time Virtual Sonography

System:

Transducer:

HI VISION Preirus EUP-B512

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follows:

Clinical Application		Mode of Operation						
General (Track I only)	Specific (Tracks I & III)	В	M	PWD	CWD	Color Doppler	Combined* (Spec.)	Other** (Spec.)
Ophthalmic	Ophthalmic Ophthalmic							
	Fetal	P	P	P	P	P	P	P
	Abdominal	Pa	Pa	Pa	Pa	Pa	Pa	Pa
	Intra-operative (Spec.)		·					
	Intra-operative (Neuro.)							· . · · ·
	Laparoscopic						i i	
	Pediatric				$\neg \neg$			
	Small Organ (Spec.)							
	Neonatal Cephalic							
	Adult Cephalic							
& Other	Trans-rectal						†	
	Trans-vaginal	-			· ·			
	Trans-urethral		Ĺ			1.		
	Trans-esoph. (non-Card.)							
	Musculo skel. (Convent.)				· ·			
	Musculo-skel. (Superfic.)							
	Intra-luminal						i	
-	Other (spec.)		_				· · · · · · · · · · · · · · · · · · ·	
	Cardiac Adult						· · · · · · · · · · · · · · · · · · ·	
Cardiac	Cardiac Pediatric							
	Trans-esophageal (card.)							
	Other (spec.)							
	Peripheral vessel		•					
Vessel	Other (spec.)							

Additional	Commènts:
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Subscript "a":	Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures
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Subscript "h":	Includes imaging for guidance of transrectal bionsy
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N = new indication. P = previously cleared in K063518.

*Combination of each operating mode, B, M, PWD and Color Doppler.

**Amplitude Doppler (Color Flow Angiography), Real Time Virtual Sonography

System:

Transducer:

HI VISION Preirus EUP-B514

Clinical Application		Ing or fluid flow analysis if the human body as follows: Mode of Operation							
General (Track I only)	Specific (Tracks I & III)	В	M	PWD	CWD	Color Doppler	Combined* (Spec.)	Other** (Spec.)	
Ophthalmic					· v				
	Fetal	P	P	P	P	P	P	P	
	Abdominal	Pa	Pa	Pa	Pa	Pa	Pa.	Pa	
	Intra-operative (Spec.)		_						
	Intra-operative (Neuro.)	,		1					
	Laparoscopic								
	Pediatric					_	· ".		
	Small Organ (Spec.)								
••	Neonatal Cephalic	. "							
Fetal Imaging	Adult Cephalic								
& Other	Trans-rectal					<u> </u>	-		
	Trans-vaginal							· · · · · · · · · · · · · · · · · · ·	
	Trans-urethral				. 1	-			
,	Trans-esoph. (non-Card.)		,		1	-			
	Musculo-skel. (Convent.)								
	Musculo-skel. (Superfic.)								
	Intra-luminal	•							
	Other (spec.)	•							
	Cardiac Adult								
Cardiac	Cardiac Pediatric				·				
	Trans-esophageal (card.)							<u> </u>	
	Other (spec.)					_			
Peripheral	Peripheral vessel								
Vessel	Other (spec.)						· · · · · · · · · · · · · · · · · · ·		

Additional	Comments:

Subscript "a":	
	(including amniocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
	(excluding neurosurgery and laparoscopic procedures).
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N = new indication. P = previously cleared in K063518.

*Combination of each operating mode, B, M, PWD and Color Doppler.

**Amplitude Doppler (Color Flow Angiography), Real Time Virtual Sonography

System:

Transducer:

HI VISION Preirus EUP-C514

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human hody as follows:

Clinical Application		Mode of Operation							
General (Track I only)	Specific (Tracks I & III)	В	M	PWD	CWD	Color Doppler	Combined* (Spec.)	Other** (Spec.)	
Ophthalmic	Ophthalmic -								
	Fetal	· P	P	P		P	P	P	
	Abdominal ·	Pa ·	Pa	Pa		Pa	Pa	Pa	
	Intra-operative (Spec.)							-	
	Intra-operative (Neuro.)			L			·		
	Laparoscopic			L		-	<u> </u>		
	Pediatric	P	P	P		. P	P	P	
	Small Organ (Spec.)	Pd	Pd	Pd	_	Pd	Pd	Pd	
	Neonatal Cephalic].		· · · · · · · · · · · · · · · · · · ·			
	Adult Cephalic							-	
& Other	Trans-rectal					· .			
	Trans-vaginal								
	Trans-urethral								
	Trans-esoph. (non-Card.)								
	Musculo-skel. (Convent.))		
	Musculo-skel. (Superfic.)		-				·	•	
	Intra-luminal								
	Other (spec.)				: .			-	
·-	Cardiac Adult								
Cardiac	Cardiac Pediatric								
	Trans-esophageal (card.)							-	
	Other (spec.)							,	
	Peripheral vessel					· -			
Vessel	Other (spec.)								

N = new indication. P = previously cleared in K063518.
*Combination of each operating mode, B, M, PWD and Color Doppler.

Additional Comments

Subscript "a": Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures

	(including ammocentesis).	
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Subscript "e":	Includes imaging for guidance of transrectal biopsy.	-
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.	٠.
Subscript "g":	For pediatric patients.	
Subscript "h":	Includes imaging for guidance of transrectal biopsy.	

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^{**}Amplitude Doppler (Color Flow Angiography), 3D Imaging, 4D Imaging, Real Time Virtual Sonography

System:

HI VISION Preirus

Transducer:

EUP-C524

	ical Application	ing or fluid flow analysis if the human body as follows: Mode of Operation							
General (Track I only)	Specific (Tracks I & III)	В	M	PWD	CWD	Color Doppler	Combined* (Spec.)	Other** (Spec.)	
Ophthalmic	Ophthalmic								
	Fetal	P	P	P		P	P	P	
	Abdominal	P	P	P		P	P	P	
	Intra-operative (Spec.)							•	
	Intra-operative (Neuro.)							•	
	Laparoscopic		_		·	-	·		
	Pediatric	P	P	P	1	P	P	P	
	Small Organ (Spec.)	Pc	Pc	Pc		Pc	Pc	Pc	
	Neonatal Cephalic								
	Adult Cephalic				[
& Other	Trans-rectal			I			-		
	Trans-vaginal	,		l					
	Trans-urethral								
•	Trans-esoph. (non-Card.)								
	Musculo-skel. (Convent.)								
	Musculo-skel. (Superfic.)								
	Intra-luminal								
	Other (spec.)								
	Cardiac Adult								
Cardiac	Cardiac Pediatric								
	Trans-esophageal (card.)								
	Other (spec.)								
Peripheral	Peripheral vessel								
Vessel	Other (spec.)								

Additional Comments:

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N = new indication. P = previously cleared in K063518.
*Combination of each operating mode, B, M, PWD and Color Doppler.

^{**}Amplitude Doppler (Color Flow Angiography), 3D Imaging, 4D Imaging

System:

Transducer:

HI VISION Preirus EUP-C532

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follows:

Clinical Application		Mode of Operation							
General (Track I only)	Specific (Tracks I & III)	В	M	PWD	CWD	Color Doppler	Combined* (Spec.)	Other*' (Spec.)	
Ophthalmic .		_					1		
	Fetal Abdominal	Pa	Pa	Pa		D.		-	
	Intra-operative (Spec.)	Pb	Pb	Pb		Pa Pb	Pa Pb	Pa Pb	
	Intra-operative (Neuro.) Laparoscopic						_		
	Pediatric	P	P	P		P	P	P	
	Small Organ (Spec.)	Pd	Pd	Pd		Pd	Pd	Pd	
	Neonatal Cephalic	P	P	P		P	P	P	
	Adult Cephalic	1					 -		
&-Other	Trans-rectal		[·				 		
	Trans-vaginal			1.			 	<u> </u>	
	Trans-urethral								
	Trans-esoph. (non-Card.)								
	Musculo-skel. (Convent.)						-		
	Musculo-skel. (Superfic.)					-	 		
-	Intra-luminal								
	Other (spec.)								
	Cardiac Adult								
Cardiac	Cardiac Pediatric						 		
	Trans-esophageal (card.)						 . 		
	Other (spec.)						 		
	Peripheral vessel	P	. Ъ	P		P	P	P	
Vessel	Other (spec.)	_		I			 		

new indication. P = previously cleared in K063518.

Add	itional	Com	ments:

Subscript "a":	
	(including amniocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis.
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of bionsy
Subscript "e":	Includes imaging for guidance of transrectal biopsy.
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.
Subscript "g":	For pediatric patients.
Subscript "h":	
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^{*}Combination of each operating mode, B, M, PWD and Color Doppler.

^{**}Amplitude Doppler (Color Flow Angiography), Real Time Tissue Elastography

System:

HI VISION Preirus

Transducer:

EUP·C715

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follows:

	ical Application	Mode of Operation							
General (Track I only)	Specific (Tracks I & III)	В	· M	PWD	CWD	Color Doppler	Combined* (Spec.)	Other** (Spec.)	
Ophthalmic	Ophthalmic		1.					<u> </u>	
	Fetal	P	P	P		P	P	P	
	Abdominal	Pa	Pa	Pa		Pa	Pa	Pa	
	Intra-operative (Spec.)								
	Intra-operative (Neuro.)						·		
	Laparoscopic						Ī. "		
	Pediatric	P	P	P		P	P	. P	
	Small Organ (Spec.)	Pd	, Pd	Pd		Pd	Pd	Pd	
	Neonatal Cephalic							·-···	
	Adult Cephalic	•							
& Other	Trans-rectal			"					
	Trans-vaginal			}					
	Trans-urethral			1		• .			
	Trans-esoph. (non-Card.)		l						
	Musculo-skel. (Convent.)								
	Musculo-skel. (Superfic.)					•			
	Intra-luminal						· · · -		
	Other (spec.)]					
_	Cardiac Adult								
Cardiac ·	Cardiac Pediatric					,,,		•	
	Trans-esophageal (card.)								
	Other (spec.)						•		
Peripheral	Peripheral vessel					·			
Vessel	Other (spec.)		•						

Additional	Comments:
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Subscript "a":	Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures
	(including amniocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
-	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis,
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of biopsy.
Subscript "e":	Includes imaging for guidance of transrectal biopsy.
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.
Subscript "g":	For pediatric patients.
Subscript "h":	Includes imaging for guidance of transrectal biopsy.
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WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED)
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(Division Sign-Off) Division of Radiological Devices Office of In Vitro Diagnostic Device Evaluation and Safety

N = new indication. P = previously cleared in K063518.

*Combination of each operating mode, B, M, PWD and Color Doppler.

**Amplitude Doppler (Color Flow Angiography), Real Time Virtual Sonography

System:

HI VISION Preirus

Transducer:

EUP-CC531

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the

	ical Application					le of Operation		···
General (Track I only)	Specific (Tracks I & III)	В	M	PWD	CWD	Color Doppler	Combined* (Spec.)	Other** (Spec.)
Ophthalmic	Ophthalmic					·- · · · · · · · · · · · · · · · · · ·		
	Fetal	P	P	P		P	P	Р
	Abdominal		**			·		 =
	Intra-operative (Spec.)					··		******
	Intra-operative (Neuro.)							-
	Laparoscopic							
	Pediatric							
	Small Organ (Spec.)	-					-	
	Neonatal Cephalic							-
	Adult Cephalic							<u>`</u>
& Other	Trans-rectal	Pe	Pe	Pe		Pe	Pe	Pe
	Trans-vaginal	Pf	Pf	Pf		Pf	Pf	Pf
	Trans-urethral							
	Trans-esoph. (non-Card.)							
	Musculo-skel. (Convent.)							
	Musculo-skel. (Superfic.)		_					
•	<u>Intra-luminal</u>							
	Other (spec.)							
Cardiac	Cardiac Adult							-
	Cardiac Pediatric							
	Trans-esophageal (card.)							
	Other (spec.)							
	Peripheral vessel							-
Vessel	Other (spec.)							

Additional Comments:

Subscript "a":	Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures
	(including amniocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis.
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of biopsy.
Subscript "e":	Includes imaging for guidance of transrectal biopsy.
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.
Subscript "g":	For pediatric patients.
Subscript "h":	Includes imaging for guidance of transrectal biopsy.
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Office of In Vitro Diagnostic Device Evaluation and Safety

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N = new indication. P = previously cleared in K063518.

*Combination of each operating mode, B, M, PWD and Color Doppler.

**Amplitude Doppler (Color Flow Angiography), Real Time Tissue Elastography

System:

HI VISION Preirus EUP-CV524

Transducer:

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follows:

\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ical Application	STIE OF	Luiu II(w anar				
						de of Operati	on	
General (Track I only)	Specific (Tracks I & III)	В	M	PWD	CWD	Color Doppler	Combined* (Spec.)	Other** (Spec.)
Ophthalmic	Ophthalmic		_					(-)
	Fetal	P	P	P		P	P	P
•	Abdominal	P	P	P		· P	P	P
	Intra-operative (Spec.)					<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>		
	Intra-operative (Neuro.)							
	Laparoscopic							
	Pediatric	P	P	P		P	P	P
	Small Organ (Spec.)	P	P	P		P	P	P
	Neonatal Cephalic			Ī .				
Fetal Imaging	Adult Cephalic						-	
& Other	Trans rectal				T	-	1,	
	Trans-vaginal							
	Trans-urethral							
	Trans-esoph. (non-Card.)							
	Musculo-skel. (Convent.)							
	Musculo-skel. (Superfic.)							
•	Intra-luminal			<u> </u>				
	Other (spec.)							
Cardiac	Cardiac Adult							
	Cardiac Pediatric							
	Trans-esophageal (card.)						· · · · · · · · · · · · · · · · · · ·	
	Other (spec.)							
Peripheral	Peripheral vessel							
	Other (spec.)	,						

	Additional	Comments:
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Subscript "a":	Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures
	(including amniocentesis).
Subscript "b"	Includes imaging of organs and structures exposed during surgery
	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis.
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of biopsy.
Subscript "e":	Includes imaging for guidance of transrectal biopsy.
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.
Subscript "g"	For pediatric patients.
Subscript "h"	Includes imaging for guidance of transrectal biopsy.
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Office of In Vitro Diagnostic Device Evaluation and Safety

N = new indication. P = previously cleared in K063518.

*Combination of each operating mode, B, M, PWD and Color Doppler.

**Amplitude Doppler (Color Flow Angiography), 3D Imaging, 4D Imaging

System:

Transducer:

HI VISION Preirus EUP-CV714

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follows:

	ical Application					le of Operati		
General (Track I only)	Specific (Tracks I & III)	В	M	PWD	CWD	Color Doppler	Combined* (Spec.)	Other** (Spec.)
Ophthalmic	Ophthalmic							
	Fetal	P	P	P		P	P	P
	Abdominal	P	P	P		P	P	P
	Intra-operative (Spec.)					-		
	Intra-operative (Neuro.)	٠						
	Laparoscopic					,		
	Pediatric	P	P	P		· P	P	P
	Small Organ (Spec.)	P	P	P		P	P	· P
	Neonatal Cephalic			1				
Fetal Imaging & Other	Adult Cephalic				-			
	Trans-rectal							
:	Trans-vaginal						•	
	Trans-urethral							
	Trans-esoph. (non-Card.)							
	Musculo-skel. (Convent.)					•		
	Musculo-skel. (Superfic.)	•						
	Intra-luminal							
	Other (spec.)							
Cardiac	Cardiac Adult							
	Cardiac Pediatric							
	Trans-esophageal (card.)						<u> </u>	
,	Other (spec.)							
Peripheral	Peripheral vessel							
Vessel	Other (spec.)			1				

Additional Comments:

Subscript "a"	Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures
	(including amniocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis.
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of biopsy.
Subscript "e":	Includes imaging for guidance of transrectal biopsy.
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.
Subscript "g":	For pediatric patients.
Subscript "h"	Includes imaging for guidance of transrectal biopsy.
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N = new indication. P = previously cleared in K063518.

*Combination of each operating mode, B, M, PWD and Color Doppler.

**Amplitude Doppler (Color Flow Angiography), 3D Imaging, 4D Imaging

System:

HI VISION Preirus

Transducer:

EUP·ES52E

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follows:

	ical Application					le of Operati		
General (Track I only)	Specific (Tracks I & III)	В	M	PWD	CWD	Color Doppler	Combined* (Spec.)	Other** (Spec.)
Ophthalmic	Ophthalmic	-						•
	Fetal							
	Abdominal			-			· · · · · · · · · · · · · · · · · · ·	
	Intra-operative (Spec.)					<u></u>		
	Intra-operative (Neuro.)		i .				,	
	Laparoscopic							
	Pediatric						1	
	Small Organ (Spec.)							
	Neonatal Cephalic						 	
	Adult Cephalic							
& Other	Trans-rectal			1	Ţ			
	Trans vaginal							-
	Trans-urethral			1				
:	Trans-esoph. (non-Card.)							
	Musculo-skel. (Convent.)							
	Musculo-skel. (Superfic.)							
-	Intra-luminal							
	Other (spec.)				_			
	Cardiac Adult							
Cardiac	Cardiac Pediatric							
	Trans-esophageal (card.)	P	P	P	P	P	P	P
	Other (spec.)			1_				
	Peripheral vessel	•					· ·	
	Other (spec.)				· ·			

N = new indication. P = previously cleared in K063518.

Additional Comments:

Subscript "a":	Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures
	(including amniocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis.
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of biopsy.
Subscript "e":	Includes imaging for guidance of transrectal biopsy.
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.
Subscript "g":	For pediatric patients.
Subscript "h":	Includes imaging for guidance of transrectal biopsy.
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> (Division Sign-Off) Division of Radiological Devices

Office of In Vitro Diagnostic Device Evaluation and Safety

^{*}Combination of each operating mode, B, M, PWD, CWD and Color Doppler.

**Amplitude Doppler (Color Flow Angiography), Tissue Doppler Imaging

System-

HI VISION Preirus

Transducer:

EUP·L52

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follows:

Clin	ical Application					le of Operati		
General (Track I only)	Specific (Tracks I & III)	В	M	PWD	CWD	Color Doppler	Combined*	Other** (Spec.)
Ophthalmic	Ophthalmic							
	Fetal							
•	Abdominal	Pa	Pa	Pa		Pa	Pa	Pa
	Intra-operative (Spec.)			, , , , ,		•		
	Intra-operative (Neuro.)						1	
	Laparoscopic							
	Pediatric	P	P	P _		P	P	P
	Small Organ (Spec.)	Pd	Pd	Pd		Pd	Pd	Pd
	Neonatal Cephalic			_				
	Adult Cephalic						1	·
& Other	Trans-rectal							
	Trans vaginal				4	-		***
	Trans-urethral							
	Trans-esoph. (non-Card.)							
	Musculo-skel. (Convent.)	P	P	P		P	P	P
	Musculo-skel. (Superfic.)	,						
	Intra-luminal							
	Other (spec.)							
Cardiac	Cardiac Adult							
	Cardiac Pediatric							
	Trans-esophageal (card.)					-	i	<u> </u>
	Other (spec.)				$\neg \neg$			*
Peripheral	Peripheral vessel	P	P	P		P	P	P
	Other (spec.)							

Additional Comments:

Subscript "a":	Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures	
	(including amniocentesis).	
Subscript "b":	Includes imaging of organs and structures exposed during surgery	
	(excluding neurosurgery and laparoscopic procedures).	
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis.	
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of hippsy	
Subscript "e":	Includes imaging for guidance of transrectal biopsy.	
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.	
Subscript "g":	For pediatric patients.	
Subscript "h":		
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Office of In Vitro Diagnostic Device Evaluation and Safety

N = new indication. P = previously cleared in K063518.

*Combination of each operating mode, B, M, PWD and Color Doppler.

**Amplitude Doppler (Color Flow Angiography), Real Time Tissue Elastography

System:

HI VISION Preirus

Transducer:

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follows:

Clin	ical Application	,,		, and		le of Operati		
General (Track I only)	Specific (Tracks I & III)	В	М	PWD	CWD	Color Doppler	Combined* (Spec.)	Other** (Spec.)
Ophthalmic	Ophthalmic							(Spou./
	Fetal						 	
	Abdominal	Pa	Pa	Pa		Pa	Pa	Pa
	Intra-operative (Spec.)			<u> </u>				<u> </u>
	Intra-operative (Neuro.)							
	Laparoscopic					*	· · · · ·	
	Pediatric	P	P	P		P	· P	P
	Small Organ (Spec.)	Pd	Pd	Pd		Pd	Pd	Pd
	Neonatal Cephalic				<u> </u>	•		
Fetal Imaging		_						-
& Other	Trans-rectal						 	
	Trans-vaginal							
	Trans-urethral							
	Trans-esoph. (non-Card.)							
	Musculo-skel. (Convent.)	P	P	P		P	P	P
	Musculo-skel. (Superfic.)	P	P	P		P ·	P	P
	Intra-luminal							
	Other (spec.)		٠ -					
	Cardiac Adult					······································		
- Cardiac	Cardiac Pediatric							
	Trans-esophageal (card.)						 	
	Other (spec.)							
	Peripheral vessel	P	P	_ P		P	P	P
	Other (spec.)							

Additional Comments:

Subscript "a"	Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures
	(including amniocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
٠	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis.
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of bionsy
Subscript "e":	Includes imaging for guidance of transrectal biopsy.
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.
Subscript "g"	For pediatric patients:
Subscript "h":	Includes imaging for guidance of transrectal bionsy

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N = new indication. P = previously cleared in K063518.

*Combination of each operating mode, B, M, PWD and Color Doppler.

**Amplitude Doppler (Color Flow Angiography), 3D Imaging, 4D Imaging, Real Time Tissue Elastography

System:

HI VISION Preirus EUP-L53L

Transducer:

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the hu

	ical Application	,1115 01 1	·	on unar		le of Operati		
General (Track I only)	Specific (Tracks I & III)	В	М	PWD	CWD	Color Doppler	Combined*	Other** (Spec.)
Ophthalmic	Ophthalmic							
	Fetal							
	Abdominal	P	P	P		P	P	P
	Intra-operative (Spec.)	-		i -				
	Intra-operative (Neuro.)						-	
	Laparoscopic						1	
	Pediatric	P	P	P		P	P.	P
	Small Organ (Spec.)	Pc	Pc	Pc		Pc	Pc	Pc
	Neonatal Cephalic							•
	Adult Cephalic							
& Other	Trans-rectal			,	•			
	Trans-vaginal						Ì	
	Trans-urethral							
	Trans-esoph. (non-Card.)							
	Musculo-skel. (Convent.)	P	_ P	P		P	P	P
	Musculo-skel. (Superfic.)	P	P	P		P	· P /	P
	Intra-luminal					_		
	Other (spec.)							-
	Cardiac Adult							
Cardiac	Cardiac Pediatric			:				
	Trans-esophageal (card.)							
	Other (spec.)]				
Peripheral	Peripheral vessel	_ P	P	P		P	P	P
Vessel	Other (spec.)		0510					-

Additional Comments:

Subscript "a"	Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures
	(including amniocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis.
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of biopsy.
Subscript "e":	Includes imaging for guidance of transrectal biopsy.
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.
Subscript "g":	For pediatric patients.
Subscript "h":	Includes imaging for guidance of transrectal biopsy.

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N = new indication. P = previously cleared in K063518.

*Combination of each operating mode, B, M, PWD and Color Doppler.

**Amplitude Doppler (Color Flow Angiography), Real Time Tissue Elastography

System:

HI VISION Preirus

Transducer:

EUP·L65

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follows:

	ical Application		٠		Moo	le of Operati	on	
General (Track I only)	Specific (Tracks I & III)	В	М	PWD	CWD	Color Doppler	Combined*	Other** (Spec.)
Ophthalmic								
	Fetal					·		
	Abdominal	P	Ρ.	P		Ρ.	P	P
	Intra-operative (Spec.)							
•	Intra-operative (Neuro.)	_						
	Laparoscopic							
	Pediatric	P	_ P	P		P	P	P
	Small Organ (Spec.)	Pc	Pc	Pc		Pc	Pc	Pc
	Neonatal Cephalic							
	Adult Cephalic			1			1.	
& Other	Trans-rectal						1	_
	Trans-vaginal						· · · · · ·	·····
· .	Trans-urethral					,		
	Trans-esoph. (non-Card.)							
	Musculo-skel. (Convent.)	Ρ.	P	P		P	P	P
	Musculo-skel. (Superfic.)	P	P	P		P	. P	P
•	Intra-luminal							
	Other (spec.)							
	Cardiac Adult						<u> </u>	
Cardiac ·	Cardiac Pediatric			·				
	Trans-esophageal (card.)							
*.	Other (spec.)						<u> </u>	
	Peripheral vessel	P	P	P		P	P	P
Vessel	Other (spec.)		_	1		-		

N = new indication. P = previously cleared in K063518.

*Combination of each operating mode, B, M, PWD and Color Doppler.

Additional Comments:

Subscript "a": Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures (including amniocentesis).

Subscript "b": Includes imaging of organs and structures exposed during surgery (excluding neurosurgery and laparoscopic procedures). Includes thyroid, parathyroid, breast, scrotum, penis. Subscript "c":

Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of biopsy. Includes imaging for guidance of transrectal biopsy: Subscript "d":

Subscript "f": Includes imaging for guidance of transvaginal biopsy.

For pediatric patients. Subscript "g":

ript "h": Includes imaging for guidance of transrectal biopsy.

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^{**}Amplitude Doppler (Color Flow Angiography), Real Time Tissue Elastography, Real Time Virtual Sonography

System:

HI VISION Preirus
EUP·L73S

Transducer:

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follows:

	ical Application		_		le of Operati		
General (Track I only)		В	M	PWD	Color Doppler	Combined*	Other** (Spec.)
Ophthalmic	Ophthalmic	<u> </u>					
	Fetal Abdominal Intra operative (Spec.) Intra operative (Neuro.)	Pa	Pa	Pa	Pa	Pa	Pa
Fetal Imaging	Laparoscopic Pediatric Small Organ (Spec.) Neonatal Cephalic Adult Cephalic	P Pd	P Pd	P Pd	P Pd	P Pd	P Pd
& Other	Trans-rectal Trans-vaginal Trans-urethral						
:	Trans-esoph. (non-Card.) Musculo-skel. (Convent.) Musculo-skel. (Superfic.) Intra-luminal Other (spec.)	P	P	P P	P P	P P	P P
Cardiac	Cardiac Adult Cardiac Pediatric Trans esophageal (card.) Other (spec.)						
Vessel	Peripheral vessel Other (spec.)	P	P	Р	 P	P	P

N = new indication. P = previously cleared in K063518.

Subscript "a": Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures

	(including amniocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis.
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of biopsy.
Subscript "e"	Includes imaging for guidance of transrectal biopsy.
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.
Subscript "g":	For pediatric patients.
Subscript "h":	Includes imaging for guidance of transrectal bionsy
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Office of In Vitro Diagnostic Device Evaluation and Safety

^{*}Combination of each operating mode, B, M, PWD and Color Doppler.

^{**}Amplitude Doppler (Color Flow Angiography), Real Time Tissue Elastography, Real Time Virtual Sonography

System:

HI VISION Preirus

Transducer:

EUP-L74M

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follows:

Clin	ical Application				Mod	le of Operati	on	
General (Track I only)	Specific (Tracks I & III)	В	M	PWD	CWD	Color Doppler	Combined*	Other** (Spec.)
Ophthalmic	Ophthalmic							·
	Fetal						1	
	Abdominal	Pa	Pa	Pa		Pa	Pa	Pa
•	Intra-operative (Spec.)		[
	Intra-operative (Neuro.)							
	Laparoscopic		L				1.	
	Pediatric	P	P	P	· .	· P	· P	Ρ.
	Small Organ (Spec.)	Pd	Pd	Pd		Pd	Pd	Pd
	Neonatal Cephalic					•	1	
	Adult Cephalic							
& Other	Trans-rectal							
**	Trans-vaginal							
	Trans-urethral							
	Trans esoph. (non Card.)				ľ			
	Musculo-skel. (Convent.)	P	P	P	i*	P	P	P
•	Musculo-skel. (Superfic.)	P	P	P		P	P	P
	Intra luminal					***		
	Other (spec.)		,					
	Cardiac Adult							
Cardiac	Cardiac Pediatric							
	Trans-esophageal (card.)				·		1	
	Other (spec.)							
Peripheral	Peripheral vessel	P	P	P		P	P	P
Vessel	Other (spec.)							

N = new indication. P = previously cleared in K063518.

Additional Comments:

Subscript "a": Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures (including amniocentesis).

	(including atmitocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
	(excluding neurosurgery and laparoscopic procedures).
Subscript "c"	Includes thyroid, parathyroid, breast, scrotum, penis.
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of biopsy.
Subscript "e":	Includes imaging for guidance of transrectal biopsy.
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.
Subscript "g":	For pediatric patients.
Subscript "h":	
(PLEAS	E DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED)

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Office of In Vitro Diagnostic Device Evaluation and Safety

510K 13093466

^{*}Combination of each operating mode, B, M, PWD and Color Doppler.

^{**}Amplitude Doppler (Color Flow Angiography), Real Time Tissue Elastography, Real Time Virtual Sonography

System:

HI VISION Preirus

Transducer:

EUP-O54J

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follows:

Clin	ical Application	,	-			e of Operati		
General (Track I only)	Specific (Tracks I & III)	В	M	PWD	CWD	Color Doppler	Combined*	Other** (Spec.)
Ophthalmic	Ophthalmic							1-1-1
,	Fetal						:	
	Abdominal							·····
	Intra operative (Spec.)	Pb	Pb	Pb		Pb	Pb	Pb
	Intra-operative (Neuro.)							
	Laparoscopic					· · · · · · · · · · · · · · · · · · ·	· ·	
	Pediatric			<u> </u>			t	
	Small Organ (Spec.)					· · · · · ·		
	Neonatal Cephalic							
	Adult Cephalic				· ·			**-
& Other	Trans-rectal		·				i	
	Trans-vaginal							
	Trans-urethral		i i					
	Trans-esoph. (non-Card.)		L					
	Musculo-skel. (Convent.)	P	P	P		P	P	Ρ.
	Musculo-skel. (Superfic.)	P	P	P		P	P	P
	Intra-luminal						· · · · ·	
	Other (spec.)							
	Cardiac Adult							
Cardiac	Cardiac Pediatric			•			1	
	Trans-esophageal (card.)						1	
	Other (spec.)				1			
Peripheral	Peripheral vessel	P	_ P	P		P	P	P
Vessel	Other (spec.)							

N = new indication. P = previously cleared in K063518.

Additional Comments:

Subscript "a":	Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures
	(including amniocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis.
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of bionsy.
Subscript "e":	Includes imaging for guidance of transrectal biopsy.
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.
Subscript "g":	For pediatric patients.
Subscript "h":	Includes imaging for guidance of transrectal biopsy.
(PLEAS	E DO NOT WRITE BELOW THIS LINE CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of Device Evaluation

Division of Radiological Devices
Office of In Vitro Diagnostic Device Evaluation and Safety

^{*}Combination of each operating mode, B, M, PWD and Color Doppler.
**Amplitude Doppler (Color Flow Angiography), Real Time Tissue Elastography

System:

Transducer

HI VISION Preirus
EUP-R54AW-19, -33

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the

Clin	ical Application	<u> </u>		- usidi		le of Operati		
General (Track I only)	Specific (Tracks I & III)	В	M	PWD	CWD	Color Doppler	Combined* (Spec.)	Other** (Spec.)
Ophthalmic	Ophthalmic							
	Fetal						 	
	Abdominal						 	 -
	Intra operative (Spec.)			1				
	Intra-operative (Neuro.)						 	
	Laparoscopic						<u> </u>	
	Pediatric						 -	
	Small Organ (Spec.)			Τ				
	Neonatal Cephalic		· ·					-
	Adult Cephalic		<u> </u>			·		
& Other	Trans-rectal	Р	P	P		P	P	P
	Trans-vaginal					· · · · · · · · · · · · · · · · · · ·		
	Trans-urethral							
	Trans-esoph. (non-Card.)						-	
	Musculo skel. (Convent.)		7-	·				
	Musculo skel. (Superfic.)							
	Intra-luminal							
	Other (spec.)							
	Cardiac Adult							
Cardiac	Cardiac Pediatric							
	Trans-esophageal (card.)				-	. •		
	Other (spec.)						-	
Peripheral	Peripheral vessel						7	
Vessel	Other (spec.)							

Additional Comments:

Subscript "a":	Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures
	(including amniocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis.
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of biopsy
Subscript "e":	Includes imaging for guidance of transrectal bionsy
Subscript "f":	Includes imaging for guidance of transvaginal bionsy
Subscript "g":	For pediatric patients.
Subscript "h":	Includes imaging for guidance of transrectal biopsy.
(PLEAS	E DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of Device Evaluation (ODE)

(Division Sign-Off) Division of Radiological Devices
Office of In Vitro Diagnostic Device Evaluation and Safety

N = new indication. P = previously cleared in K063518.

*Combination of each operating mode, B, M, PWD and Color Doppler.

**Amplitude Doppler (Color Flow Angiography), Real Time Tissue Elastography

System:

HI VISION Preirus

Transducer:

EUP-S50A

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follows:

Clin	ical Application	Mode of Operation								
General (Track I only)	Specific (Tracks I & III)	В	M	PWD	CWD	Color Doppler	Combined* (Spec.)	Other** (Spec.)		
Ophthalmic	Ophthalmic						·	-		
	Fetal	P	P	P	P	P	P	P		
	Abdominal	Pa	Pa	Pa	Pa	Pa	Pa	Pa		
	Intra-operative (Spec.)									
	Intra-operative (Neuro.)									
	Laparoscopic				<u> </u>					
	Pediatric	P	P	P	P	P	P	P		
	Small Organ (Spec.)			l						
	Neonatal Cephalic									
	Adult Cephalic	P	P	P	P	. P	. b	P		
& Other	Trans-rectal									
	Trans-vaginal									
	Trans-urethral									
	Trans-esoph. (non-Card.)									
	Musculo-skel. (Convent.)		<i>'</i>							
	Musculo-skel. (Superfic.)		<u> </u>							
	Intra-luminal							• •		
	Other (spec.)]			
	Cardiac Adult	P	P	P	P	P	P	P		
Cardiac	Cardiac Pediatric	P	P	P	P	P	P	P		
	Trans-esophageal (card.)									
	Other (spec.)				l					
	Peripheral vessel	P	P	P	P	P	P	P		
Vessel	Other (spec.)	7707	0510	1						

Additional Comments:

Subscript 'a":	Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures
	(including amniocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis.
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of biopsy.
Subscript "e":	Includes imaging for guidance of transrectal biopsy.
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.
Subscript "g":	For pediatric patients.
Subscript "h":	Includes imaging for guidance of transrectal biopsy.
PLEAS	E DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of Device

(Division Sign-Off)

Division of Radiological Devices
Office of In Vitro Diagnostic Device Evaluation and Safety

N = new indication. P = previously cleared in K063518.

*Combination of each operating mode, B, M, PWD, CWD and Color Doppler.

**Amplitude Doppler (Color Flow Angiography), Tissue Doppler Imaging

DIAGNOSTIC ULTRASOUND INDICATIONS FOR USE FORM HI VISION Preirus EUP-S52

System:

Transducer:

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follows:

	ical Application	Mode of Operation								
General (Track I only)	Specific (Tracks I & III)	В	M	PWD	CWD	Color Doppler	Combined* (Spec.)	Other** (Spec.)		
Ophthalmic	Ophthalmic									
	Fetal	-								
	Abdominal			i			 	**		
	Intra-operative (Spec.)			i						
	Intra-operative (Neuro.)			1			 			
	Laparoscopic			1						
	Pediatric	P	P	P	P	P	P	P		
•	Small Organ (Spec.)	Pc	Pc	Pc	Pc	Pc	Pc	Pc		
	Neonatal Cephalic			1						
	Adult Cephalic									
& Other	Trans-rectal							· ·		
	Trans-vaginal						<u> </u>			
	Trans-urethral									
	Trans-esoph. (non-Card.)		•		· ·		1			
	Musculo-skel. (Convent.)							m. 44-44		
	Musculo-skel. (Superfic.)									
	Intra-luminal									
	Other (spec.)									
-	Cardiac Adult									
Cardiac	Cardiac Pediatric	P	P	P	P	P	P	P		
	Trans-esophageal (card.)		_							
	Other (spec.)						<u> </u>			
Peripheral	Peripheral vessel						7			
	Other (spec.)									

N = new indication. P = previously cleared in K063518.

Additional Comments:

Subscript "a":	Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures
	(including amniocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis.
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of bionsy
Subscript "e":	Includes imaging for guidance of transrectal biopsy.
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.
Subscript "g":	For pediatric patients.
Subscript "h":	Includes imaging for guidance of transrectal biopsy.
(PLEAS	E DO NOT WRITE BELOW THIS LINE CONTINUE ON ANOTHER PAGE IF NEEDED

Concurrence of CDRH, Office of Dovice Evaluation (ODE)

(Division Sign-Off) Division of Radiological Devices Office of In Vitro Diagnostic Device Evaluation and Safety

^{*}Combination of each operating mode, B, M, PWD, CWD and Color Doppler.
**Amplitude Doppler (Color Flow Angiography), Tissue Doppler Imaging

System:

Transducer:

HI VISION Preirus EUP-S70

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human be

Clin	ical Application	Mode of Operation								
General (Track I only)	Specific (Tracks I & III)	В	М	PWD	CWD	Color Doppler	Combined* (Spec.)	Other** (Spec.)		
Ophthalmic	Ophthalmic		1							
	Fetal	P	P	P	P	P	P	P		
	Abdominal	P	P	P	P	. P	P	P		
	Intra-operative (Spec.)									
	Intra-operative (Neuro.)							-		
	Laparoscopic									
	Pediatric	P	. P	P	P	P	P	P		
	Small Organ (Spec.)	_						<u> </u>		
_	Neonatal Cephalic						1			
	Adult Cephalic	P	P	P	P	P	P	P		
& Other	Trans:rectal			T			 +			
	Trans-vaginal		_		$\neg \neg$			···-		
	Trans-urethral						 			
	Trans-esoph. (non-Card.)						 -			
	Musculo-skel. (Convent.)		_							
	Musculo skel. (Superfic.)						 -			
	Intra-luminal				-		 -			
	Other (spec.)						 			
	Cardiac Adult	Ρ.	P	P	P	P	P	P		
Cardiac	Cardiac Pediatric	Ρ.	P	P	P	P	P	<u>г</u> Р		
·	Trans-esophageal (card.)	_		 				<u> </u>		
	Other (spec.)						 -			
Peripheral	Peripheral vessel	P	P	P	P	P	P	P		
	Other (spec.)			 			<u> </u>	<u> </u>		

Additional Comments:

Subscript a .	includes imaging for guidance of percutaneous biopsy of abdominal organs and structures
	(including amniocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of biopsy.
Subscript "e":	Includes imaging for guidance of transrectal biopsy.
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.
Subscript "g":	For pediatric patients.
Subscript "h":	Includes imaging for guidance of transrectal biopsy
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> (Division Sign-Off) Division of Radiological Devices Office of In Vitro Diagnostic Device Evaluation and Safety

N = new indication. P = previously cleared in K063518.

*Combination of each operating mode, B, M, PWD, CWD and Color Doppler.

**Amplitude Doppler (Color Flow Angiography), Tissue Doppler Imaging

System:

HI VISION Preirus

Transducer:

EUP-U533

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follows:

Clinical Application		Mode of Operation								
General (Track I only)	Specific (Tracks I & III)	В	M	PWD	CWD	Color Doppler	Combined*	Other** (Spec.)		
Ophthalmic	Ophthalmic		I'''				(open)	(5)000,		
	Fetal						 			
	Abdominal			`			1			
	Intra-operative (Spec.)					**	 			
٠	Intra-operative (Neuro.)			T -			 			
	Laparoscopic									
	Pediatric		,				· · ·			
	Small Organ (Spec.)									
	Neonatal Cephalic							,		
	Adult Cephalic				$\neg \neg$					
& Other	Trans-rectal	Ph	Ph	Ph		Ph	Ph	Ph		
	Trans-vaginal						1			
	Trans-urethral									
	Trans-esoph. (non-Card.)						1			
	Musculo-skel. (Convent.)		<u> </u>							
	Musculo-skel. (Superfic.)									
	Intra-luminal									
	Other (spec.)									
	Cardiac Adult									
Cardiac	Cardiac Pediatric						<u> </u>	···········		
	Trans esophageal (card.)			i i						
	Other (spec.)									
Peripheral	Peripheral vessel									
	Other (spec.)									

N = new indication. P = previously cleared in K063518.

Additional Comments:

Subscript "a":	Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures
	(including amniocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis.
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of biopsy.
Subscript "e":	Includes imaging for guidance of transrectal biopsy.
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.
Subscript "g":	For pediatric patients.
Subscript "h":	Includes imaging for guidance of transrectal biopsy.
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Concurrence of CDRH, Office of Davice E

(Division Sign-Off) Division of Radiological Devices

Office of In Vitro Diagnostic Device Evaluation and Safety

^{*}Combination of each operating mode, B, M, PWD and Color Doppler.
**Amplitude Doppler (Color Flow Angiography), Real Time Tissue Elastography

System:

Transducer

HI VISION Preirus EUP V53W

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follow

Clinical Application		Mode of Operation								
General (Track I only)	Specific (Tracks I & III)	B	M	PWD	CWD	Color Doppler	Combined* (Spec.)	Other** (Spec.)		
Ophthalmic	Ophthalmic						1 1 1	,-p		
	Fetal	P	P	P		P	P	P		
	Abdominal		1					·		
	Intra-operative (Spec.)									
	Intra operative (Neuro.)						†			
	Laparoscopic									
	Pediatric									
	Small Organ (Spec.)									
-	Neonatal Cephalic									
	Adult Cephalic									
& Other	Trans-rectal	Pe	Pe	Pe		Pe	Pe	Pe		
	Trans-vaginal	Pf	Pf	Pf		Pf	Pf	Pf		
	Trans-urethral						· ·			
,	Trans-esoph. (non-Card.)	:				. ;				
	Musculo-skel. (Convent.)									
	Musculo-skel. (Superfic.)									
	Intra-luminal									
	Other (spec.)					ŧ				
_	Cardiac Adult							·		
Cardiac	Cardiac Pediatric							-		
	Trans-esophageal (card.)			,						
	Other (spec.)									
	Peripheral vessel									
Vessel	Other (spec.)									

N = new indication. P = previously cleared in K063518.

Additional Comments

Subscript a .	Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures
	(including amniocentesis).
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	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis.
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Subscript "e":	Includes imaging for guidance of transrectal biopsy.
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.
Subscript "g":	For pediatric patients.
Subscript "h":	Includes imaging for guidance of transrectal biopsy.

Concurrence of CDRH, Office of De

(Division Sign-Off) Division of Radiological Devices Office of In Vitro Diagnostic Device Evaluation and Safety

^{*}Combination of each operating mode, B, M, PWD and Color Doppler.
**Amplitude Doppler (Color Flow Angiography), 3D Imaging, 4D Imaging, Real Time Tissue Elastography

System:

Transducer:

HI VISION Preirus EUP-VV731

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follows:

Clin	ical Application	Mode of Operation								
General (Track I only) Ophthalmic	Specific (Tracks I & III) Ophthalmic	В	М	PWD		Color Doppler	Combined* (Spec.)	Other** (Spec.)		
Оригланите										
	Fetal	P	P	P		P	P	P		
	Abdominal			<u> </u>						
	Intra-operative (Spec.)		<u> </u>							
	Intra operative (Neuro.)			<u> </u>						
	Laparoscopic									
	Pediatric			<u> </u>						
	Small Organ (Spec.)		<u> </u>							
	Neonatal Cephalic									
	Adult Cephalic									
& Other	Trans-rectal	P -	P	P		P	P	. P		
	Trans-vaginal	P	P	L P		P	P	P		
	Trans-urethral									
	Trans-esoph. (non-Card.)									
	Musculo-skel. (Convent.)									
	Musculo-skel. (Superfic.)									
	Intra-luminal									
	Other (spec.)		Ľ							
	Cardiac Adult									
Cardiac	Cardiac Pediatric									
	Trans-esophageal (card.)									
	Other (spec.)							<u>.</u>		
	Peripheral vessel			i		,	-	·		
Vessel	Other (spec.)		_							

Addi	tional	Com	ments	٠.
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Subscript "a":	Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures
	(including amniocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis.
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of bionsy
Subscript "e":	Includes imaging for guidance of transrectal biopsy.
Subscript "f"	Includes imaging for guidance of transvaginal biopsy.
Subscript "g":	For pediatric patients.
Subscript "h":	Includes imaging for guidance of transrectal biopsy.

(Division Sign-Off) Division of Radiological Devices Office of In Vitro Diagnostic Device Evaluation and Safety

N = new indication. P = previously cleared in K063518.

*Combination of each operating mode, B, M, PWD and Color Doppler.

**Amplitude Doppler (Color Flow Angiography)

System:

Transducer:

HI VISION Preirus Fujinon SP711

Intended use: Diagnostic ultrasound imaging or fluid flow analysis if the human body as follows:

Clinical Application		Mode of Operation						
General (Track I only)	Specific (Tracks I & III)	В	M	PWD	CWD	Color Doppler	Combined* (Spec.)	Other** (Spec.)
Ophthalmic	Ophthalmic			1.	-		(5)000	(Opco.)
-	Fetal		1					
	Abdominal		<u> </u>					
	Intra-operative (Spec.)		<u> </u>				1	
	Intra-operative (Neuro.)							-
	Laparoscopic					-		
	Pediatric							<u>.</u>
	Small Organ (Spec.)							
-	Neonatal Cephalic							
Fetal Imaging						<u> </u>		
& Other	Trans-rectal							
	Trans-vaginal							
	Trans-urethral							
•	Trans-esoph. (non-Card.)	-	·			. "		
	Musculo-skel. (Convent.)						,	
	Musculo-skel. (Superfic.)		<u> </u>		_			
	Intra-luminal	P						
	Other (spec.)							
Cardiac	Cardiac Adult		<u> </u>	<u> </u>				
	Cardiac Pediatric							
	Trans-esophageal (card.)							
<u> </u>	Other (spec.)	<u> </u>						
	Peripheral vessel							
Vessel	Other (spec.)	. 770.1						

N = new indication. P = previously cleared in K011252.

Subscript "a":	Includes imaging for guidance of percutaneous biopsy of abdominal organs and structures
	(including amniocentesis).
Subscript "b":	Includes imaging of organs and structures exposed during surgery
	(excluding neurosurgery and laparoscopic procedures).
Subscript "c":	Includes thyroid, parathyroid, breast, scrotum, penis.
Subscript "d":	Includes thyroid, parathyroid, breast, scrotum, penis and imaging for guidance of biopsy.
Subscript "e":	Includes imaging for guidance of transrectal biopsy.
Subscript "f":	Includes imaging for guidance of transvaginal biopsy.
Subscript "g":	For pediatric patients.
Subscript "h":	Includes imaging for guidance of transrectal biopsy.
(DI DIAC	E DO MOR LITTURE SAVE OF BUILDING

WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED) Concurrence of CDRH, Office of Davice Evaluation (ODE)

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Office of In Vitro Diagnostic Device Evaluation and Safety